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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,563	06/01/2007	Takashi Hotta	77661/73	4705

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KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER	
LUKS, JEREMY AUSTIN	
ART UNIT	PAPER NUMBER
2832	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,563	HOTTA ET AL.	
	Examiner	Art Unit	
	JEREMY LUKS	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *3-6 and 15-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-14,18 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to because of the following informalities: In line 6 of the claim, the work "a" should be changed to "an". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 7, 9, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun (2004/0144367) in view of Alder (2004/0107943).

With respect to Claim 1, Braun teaches a delivery pipe (Figure 10) comprising: an outer pipe (134) having a longitudinal direction; an inner pipe (110) extending in the longitudinal direction and fluidly isolated from the outer pipe (134); wherein the outer pipe (134) is connected to a plurality of fuel injectors (136a-d) of a multi-cylinder internal combustion engine (Page 2, [0027]), the outer pipe (134) being provided with a connector for causing fuel to flow to a fuel passage defined between the outer pipe (134) and the inner pipe (110) (Page 2, Lines 9-10 of [0027]), the inner pipe (110) being disposed in the outer pipe (134) and having an open end (117) through which an interior of the inner pipe (110) communicates with atmosphere (Page 2, [0024]-[0025]). Braun fails to teach a noise emission decreasing device located within the inner pipe being

adapted to act so as to decrease a noise emitted from the inner pipe. Alder teaches an inner dampening pipe (16) of a delivery pipe having a noise emission decreasing device (Page 2, [0017] – bottom of paragraph, material within hollow cavity #18 of inner pipe #16) located within the inner pipe and being adapted to act so as to decrease a noise emitted from the inner pipe (16). The Examiner notes that that the foam materials of taught by Alder are known sound absorbers, and that appears to be their intended function, as [0002] states that the pressure pulses which are being dampened also comprise an undesirable noise component, which is obviously being dampened as well. Additionally, it has been held that the recitation than an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Braun, with the apparatus of Alder to increase the dampening effect of the inner pipe of Braun by incorporating the noise emission material of Adler, as well as providing a specific desired dampening characteristic (based on the material chosen for within inner pipe #16 (Alder, Page 2, [0017]) because the technique for improving a particular class of devices (i.e. the hollow inner pipe of a fuel rail) was part of the ordinary capabilities of a person in the art, in view of the teaching of the technique (taught by Adler) for improvement in other situations. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007).

With respect to Claim 7, Alder teaches wherein the noise emission decreasing device (Page 2, [0017]) is provided at all portions of a cross section of an interior (18) of

the inner pipe (16). Note that Page 2, [0017] states that the hollow body #18 can be **filled** with a solid.

With respect to Claim 9, Alder teaches wherein the noise emission decreasing device (Page 2, [0017], material within hollow cavity #18 of inner pipe #16 discussed at bottom of paragraph) is disposed at an entire circumference of an inside surface (18) of the inner pipe (16). Note that Page 2, [0017] states that the hollow body #18 can be **filled** with a solid.

With respect to Claim 13, Alder teaches wherein the noise emission decreasing device (Page 2, [0017], material within hollow cavity #18 of inner pipe #16 discussed at bottom of paragraph) is pressed into the inner pipe (16) and is located inside (18) the inner pipe (16). Further, with respect to pressing the material inside the inner pipe, the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given little patentable weight.

With respect to Claim 14, Alder teaches wherein the noise emission decreasing device (Page 2, [0017], material within hollow cavity #18 of inner pipe #16 discussed at bottom of paragraph) is bonded to an inner surface of the inner pipe (16) and is located inside (18) the inner pipe (16). Further, with respect to pressing the material inside the inner pipe, the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given little patentable weight.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braun (2004/0144367) in view of Alder (2004/0107943), as applied to claim 1 above, and further in view of Kraai (5,365,025). Braun and Alder are relied upon for the reasons

and disclosures set forth above. Alder further teaches a noise emission decreasing device (Page 2, [0017], material within hollow cavity #18 of inner pipe #16 discussed at bottom of paragraph). Braun and Alder fail to teach wherein the noise emission decreasing device includes a mesh. Kraai teaches wherein a known noise emission decreasing device (Figures 1, 2, and 5-7, #34) includes a mesh (Col 3, Lines 22-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Braun, with the apparatus of Kraai to provide simple substitution of one known noise emission decreasing element (wire mesh #34 of Kraai) for another (open or closed-cell foam of Alder), to provide the predictable result of the material function as a noise emission decreasing device. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007).

4. Claims 8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun (2004/0144367) in view of Alder (2004/0107943), as applied to claim 1 above, and further in view of Langer (5,452,577). Braun and Alder are relied upon for the reasons and disclosures set forth above. Alder further teaches a noise emission decreasing device (Page 2, [0017], material within hollow cavity #18 of inner pipe #16 discussed at bottom of paragraph) located within the inner pipe (Figure 1, #16). Braun and Alder fail to explicitly teach wherein the noise emission decreasing device is provided at only a portion of a cross section of an interior of the inner pipe; wherein the noise emission decreasing device is disposed at only a portion of a circumference of an inside surface of the inner pipe; wherein the noise emission decreasing device is disposed at only the open end of the inner pipe; and wherein the noise emission

decreasing device is disposed at only a longitudinally intermediate portion of the inner pipe. Langer teaches wherein it is known to provide sound absorbing material at either all or only portions of an inner pipe (Col 1, Lines 44-64) to achieve a desired reduction of noise in a conduit. Therefor when used in combination Langer teaches wherein it would have been an obvious matter of design choice to provide the noise emission decreasing device at only a portion of a cross section of an interior of the inner pipe; at only a portion of a circumference of an inside surface of the inner pipe; at only the open end of the inner pipe; and at only a longitudinally intermediate portion of the inner pipe. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Braun, with the apparatus of Langer to apply the silencing layer to locations which are particularly critical with respect to vibration so that an optimum system can be achieved with respect to noise emission. Further, it is noted that Alder teaches the noise emission decreasing device filling the inner pipe #16 (Page 2, [0017], material within hollow cavity #18 of inner pipe #16 discussed at bottom of paragraph), but Alder does not teach the noise emission decreasing device at only the portions of claims 8 and 10-11. However, these limitations would have further been an obvious modification to one of ordinary skill in the art, since it has been held that omission of an element (i.e. portions of the noise emission decreasing device) and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. In re Karlson, 136 USPQ 184.

5. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun (2004/0144367) in view of Alder (2004/0107943), Kraai (5,365,025), and

Langer (5,452,577). Braun teaches a delivery pipe (Figure 10) comprising: an outer pipe (134) having a longitudinal direction; an inner pipe (110) extending in the longitudinal direction and fluidly isolated from the outer pipe (134); wherein the outer pipe (134) is connected to a plurality of fuel injectors (136a-d) of a multi-cylinder internal combustion engine (Page 2, [0027]), the outer pipe (134) being provided with a connector for causing fuel to flow to a fuel passage defined between the outer pipe (134) and the inner pipe (110) (Page 2, Lines 9-10 of [0027]), the inner pipe (110) being disposed in the outer pipe (134) and having an open end (117) through which an interior of the inner pipe (110) communicates with atmosphere (Page 2, [0024]-[0025]). Braun fails to teach a noise emission decreasing device located within the inner pipe being adapted to act so as to decrease a noise emitted from the inner pipe, wherein the noise emission decreasing device includes a mesh, wherein the noise emission decreasing device is provided at only a portion of a cross section of an interior of the inner pipe, or wherein the noise emission decreasing device being located within the inner pipe at only an open end. Alder teaches an inner dampening pipe (16) of a delivery pipe having a noise emission decreasing (Page 2, [0017], material within hollow cavity #18 of inner pipe #16 discussed at bottom of paragraph) device located within the inner pipe and being adapted to act so as to decrease a noise emitted from the inner pipe (16). The Examiner notes that that the foam materials of taught by Alder are known sound absorbers, and that appears to be their intended function, as [0002] states that the pressure pulses which are being dampened also comprise an undesirable noise component, which is obviously being dampened as well. Additionally, it has been held

that the recitation than an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Braun, with the apparatus of Alder to increase the dampening effect of the inner pipe of Braun by incorporating the noise emission material of Adler, as well as providing a specific desired dampening characteristic (based on the material chosen for within inner pipe #16 (Alder, Page 2, [0017])) because the technique for improving a particular class of devices (i.e. the hollow inner pipe of a fuel rail) was part of the ordinary capabilities of a person in the art, in view of the teaching of the technique (taught by Adler) for improvement in other situations. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007). Kraai teaches wherein a known noise emission decreasing device (Figures 1, 2, and 5-7, #34) includes a mesh (Col 3, Lines 22-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Braun, with the apparatus of Kraai to provide simple substitution of one known noise emission decreasing element (wire mesh #34 of Kraai) for another (open or closed-cell foam of Alder), to provide the predictable result of the material function as a noise emission decreasing device. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007). Langer teaches wherein it is known to provide sound absorbing material at either all or only portions of an inner pipe (Col 1, Lines 44-64) to achieve a desired reduction of noise in a conduit. Therefor when used in combination Langer teaches wherein it would have been an obvious matter of design choice to provide the

noise emission decreasing device at only a portion of a cross section of an interior of the inner pipe; or at only the open end of the inner pipe. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Braun as modified, with the apparatus of Langer to apply the silencing layer to locations which are particularly critical with respect to vibration so that an optimum system can be achieved with respect to noise emission. Further, it is noted that Alder teaches the noise emission decreasing device filling the inner pipe #16 (Page 2, [0017]), but Alder does not teach the noise emission decreasing device at only the portions of claims 18 and 19. However, these limitations would have further been an obvious modification to one of ordinary skill in the art, since it has been held that omission of an element (i.e. portions of the noise emission decreasing device) and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. In re Karlson, 136 USPQ 184.

Response to Arguments

6. Applicant's arguments filed 3/23/09 have been fully considered but they are not persuasive. The Examiner considers the obvious combination of Braun, Adler, Kraai and Langer to teach all of the limitations as claimed by Applicant.

7. Regarding Applicant's argument that the damper of Applicant is located within a pipe in which fluid flow, the Examiner disagrees with Applicant's interpretation. The Examiner has relied upon pipe #16 or Adler to teach an inner, fluidly isolated pipe, similar to Braun's inner pipe #110. Adler further teaches filling the hollow cavity #18 of

inner pipe #16 to contain a noise emission decreasing device (Adler, Page 2, [0017], bottom of paragraph). Further, Adler teaches ensuring a construction for the inner pipe #16 that ensures that fluid does not permeate through the walls of pipe #16. Therefor, the rejection is proper.

8. Regarding Applicant's assertion that Braun does not teach the outer pipe being provided with a connector for causing a fuel to flow to a fuel passage defined between the outer pipe and inner pipe, as indicated in the rejection above, Braun states in the middle of [0027] on page 2, that the outer pipe #134 defines a fuel inlet fitting (i.e. a connector) for receiving fuel, which will obviously flow to the passage between the inner and outer pipes (110 and 134) because pipe #110 is fluidly isolated. Therefor, the rejection is proper.

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner has provided proper motivation under KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007), as well as motivation taken directly from the references.

10. In response to applicant's argument that Braun and Adler cannot be combined, the test for obviousness is not whether the features of a secondary reference may be

bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

11. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMY LUKS whose telephone number is (571)272-2707. The examiner can normally be reached on Monday-Thursday 8:30-6:00, and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremy Luks/
Examiner, Art Unit 2832

/Jeffrey Donels/

Primary Examiner, Art Unit 2832